

REMARKS

Applicant has carefully reviewed the Application in light of the Final Office Action mailed November 5, 2003. At the time of the Final Office Action, Claims 1-21 were pending in the Application. Applicant cancels Claims 4, 11, 14, and 15 without prejudice or disclaimer. The cancellation of these claims is not the result of any prior art reference, nor has it been done to address any potential deficiency in Applicant's specification. The cancellation of these claims has been done only in an effort to expedite the prosecution of this case. Applicant also amends claims 1, 5, 6, and 16-18. The amendments to the claims are not the result of any prior art reference and, thus, do not narrow the scope of any of the claims. Furthermore, the amendments are not related to patentability issues and only further clarify subject matter already present. Applicant respectfully requests reconsideration of the pending claims and favorable action in this case.

Priority

The Examiner notes that Applicant has submitted an uncertified copy of the 99112552.7 Application filed in Europe on July 1, 1999 and requests that a certified copy be submitted as is required by 35 U.S.C. 119(b). The Examiner also notes that Applicant has submitted an uncertified copy of the 01-11594.8 Application filed in Europe on May 31, 2000 and requests that a certified copy also be submitted as is required by 35 U.S.C. 119(b). Applicant has complied with the Examiner's request in both instances and provided the certified documents, which are appended to this Response.

Drawings

Applicant has made a series of amendments to the drawings to correct discrepancies identified by the Examiner and to cure several minor clerical errors. The amendments to the drawings do not introduce any new matter into the Application. An Annotated Marked Up Sheet and a Replacement Sheet reflecting these changes have been included in the Response. Applicant respectfully requests the Examiner to withdraw the pending §112 rejections regarding the drawings.

Section 102 Rejections

The Examiner rejects Claims 1-3, 6-7, and 12 under 35 U.S.C. §102(b), as being anticipated by U.S. Patent No. 5,647,035 issued to Cadeddu et al. (hereafter "*Cadeddu*"). Applicant respectfully traverses this rejection for the following reasons.

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 2 USPQ 2d 1051, 1053 (Fed. Cir. 1987); MPEP § 2131. In addition, "[t]he identical invention must be shown in as complete detail as is contained in the . . . claims" and "[t]he elements must be arranged as required by the claim." *Richardson v. Suzuki Motor Co.*, 9 USPQ 2d 1913, 1920 (Fed. Cir. 1989); *In re Bond*, 15 USPQ 2d 1566 (Fed. Cir. 1990); MPEP § 2131 (*emphasis added*). In regard to inherency of a reference, "[t]he fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic." MPEP § 2112 (citing *In re Rijckaert*, 9 F.3d 1531, 1534, 28 USPQ 2d 1955, 1957 (Fed. Cir. 1993) (*emphasis in original*)). Thus, in relying upon the theory of inherency, an Examiner must provide a basis in fact and/or technical reasoning to support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art. MPEP § 2112 (citing *Ex Parte Levy*, 17 USPQ 2d 1461, 1464 (Bd. Pat. at App. and Inter. 1990) (*emphasis in original*)).

Independent Claims 1 and 13 recite, in general, a plurality of nodes connected along the first optical carrier and the second optical carrier to form bidirectional links, the plurality of nodes communicating in pairs, one of the pairs defining a working link associated with a portion of the first optical carrier and a portion of the second optical carrier and being configured to exchange optical signals using a first wavelength on the first optical carrier and a second wavelength that is different from the first wavelength on the second optical carrier during a normal condition, the one pair of nodes being configured to exchange optical signals using the first wavelength on the second optical carrier and the second wavelength on the first optical carrier during a failure condition. Independent Claim 6 recites, in general, a plurality of nodes connected along the first optical carrier and the second optical carrier and configured to communicate in pairs to define bidirectional links, the method comprising exchanging optical signals between one of the pairs of nodes over one of the bidirectional links by using a first wavelength on the first optical carrier and a second wavelength on the second optical carrier during normal operation, detecting a failed link among the bidirectional links, and reconfiguring the nodes in the one pair to invoke a protection scheme that uses the first wavelength on the

second optical carrier and the second wavelength on the first optical carrier to avoid the failed link.

In contrast to these teachings, *Cadeddu* provides a ring network communication structure on an optical carrier and a reconfigurable node for said structure. In said structure, a plurality of nodes are interconnected by means of connections that include a first and a second optical carrier such as an optical fiber. Transmission between two nodes occurs on the ring according to a wavelength-division multiplexing (WDM) scheme, by utilizing a first wavelength for communication in one direction on the first carrier and a second wavelength for communication in the opposite direction on the second carrier. The second wavelength on the first carrier and the first wavelength on the second carrier are reserved for protection (protection channels) and are "shared" among all the nodes. Under regular operation conditions of the network, the signals conveyed by the two fibers are detected, processed as required in units of a higher hierarchical level, converted again into optical signals, and re-transmitted toward the following node. In the presence of a failure on one of the connections, the nodes adjacent to the failed connection reconfigure themselves to ensure the continuation of communication on the alternative path provided by the ring: utilizing the first wavelength on the second carrier and the second wavelength on the first carrier. The embodiment described, referring to just two wavelengths λ_1, λ_2 , can be generalized to any number of wavelengths with a corresponding expansion of the described connection (switching matrices of the nxn type may be used).

However, nowhere in *Cadeddu* is there any disclosure of a plurality of nodes connected along the first optical carrier and the second optical carrier to form bidirectional links, the plurality of nodes communicating in pairs, one of the pairs defining a working link associated with a portion of the first optical carrier and a portion of the second optical carrier and being configured to exchange optical signals using a first wavelength on the first optical carrier and a second wavelength that is different from the first wavelength on the second optical carrier during a normal condition, the one pair of nodes being configured to exchange optical signals using the first wavelength on the second optical carrier and the second wavelength on the first optical carrier during a failure condition. This is because the complexity of the node-switching structure of the claimed architecture depends only on the number of links managed by the nodes and does not depend on the number of wavelengths in the network. Moreover, switching operations are performed external to the network. In particular, the present invention allows switching of the single channel to be performed between the receiving and the transmitting transponders and, therefore, the multiplexed optical flux conditions at the input of the node amplifier are

substantially unchanged. Thus, the subject matter of *Cadeddu* is clearly distinguishable from the pending claims.

For at least these reasons, Claims 1, 6, and 13 are patentable over *Cadeddu*. Claims 2-3 and 5, claims 7-10 and 12, and claims 16-21 depend from Claims 1, 6, and 13 respectively and, thus, are also allowable for similar reasons. Notice to this effect is respectfully requested in the form of a full allowance of these claims.

The Examiner has also made a number of other claim rejections based on non-obviousness (§103); however, such assertions are erroneous in light of the arguments provided supra. For the reasons provided above, all the pending claims are allowable over the references of record: either standing alone or in combination. Notice to this effect is again respectfully requested.

Double Patenting and Provisional Rejections

The Examiner provisionally rejects claims 1-21 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-6, 14-15, 18-22, 25-27, and 29-33 of copending Application No. 09/750,311. Applicant stands prepared to submit a terminal disclaimer in order to overcome the Examiner's nonstatutory double patenting rejection provided the pending claims are deemed allowable in their present form. Applicant respectfully requests that the rejection be suspended until all other patentability issues are resolved. Filing of the terminal disclaimer, however, should not be construed as agreement with or acquiescence to the Examiner's statements that the claims of the present application are in any way related to other identified subject matter. Applicant reserves the right to comment on these statements at a later date if Applicants deem it appropriate to do so. However, the copending application is distinguishable from the pending claims. Moreover, the claimed subject matter of these two cases is discrete and separable. Additionally, the amendments made to the pending claims only further clarify such differences. Accordingly, Applicant respectfully requests the Examiner to withdraw this rejection.

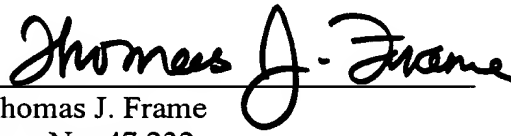
CONCLUSION

Applicants has now made an earnest attempt to place this case in condition for immediate allowance. For the foregoing reasons and for other reasons clear and apparent, Applicant respectfully requests reconsideration and allowance of the pending claims.

Applicant believes to fee to be due. However, if this is not correct the Commissioner is hereby authorized to charge additional fees or credit any overpayments to Deposit Account No. 02-0384 of Baker & Botts, L.L.P.

If there are matters that can be discussed by telephone to advance prosecution of this application, Applicants invite the Examiner to contact its attorney at the number provided below.

Respectfully submitted,
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Page 3 of 11

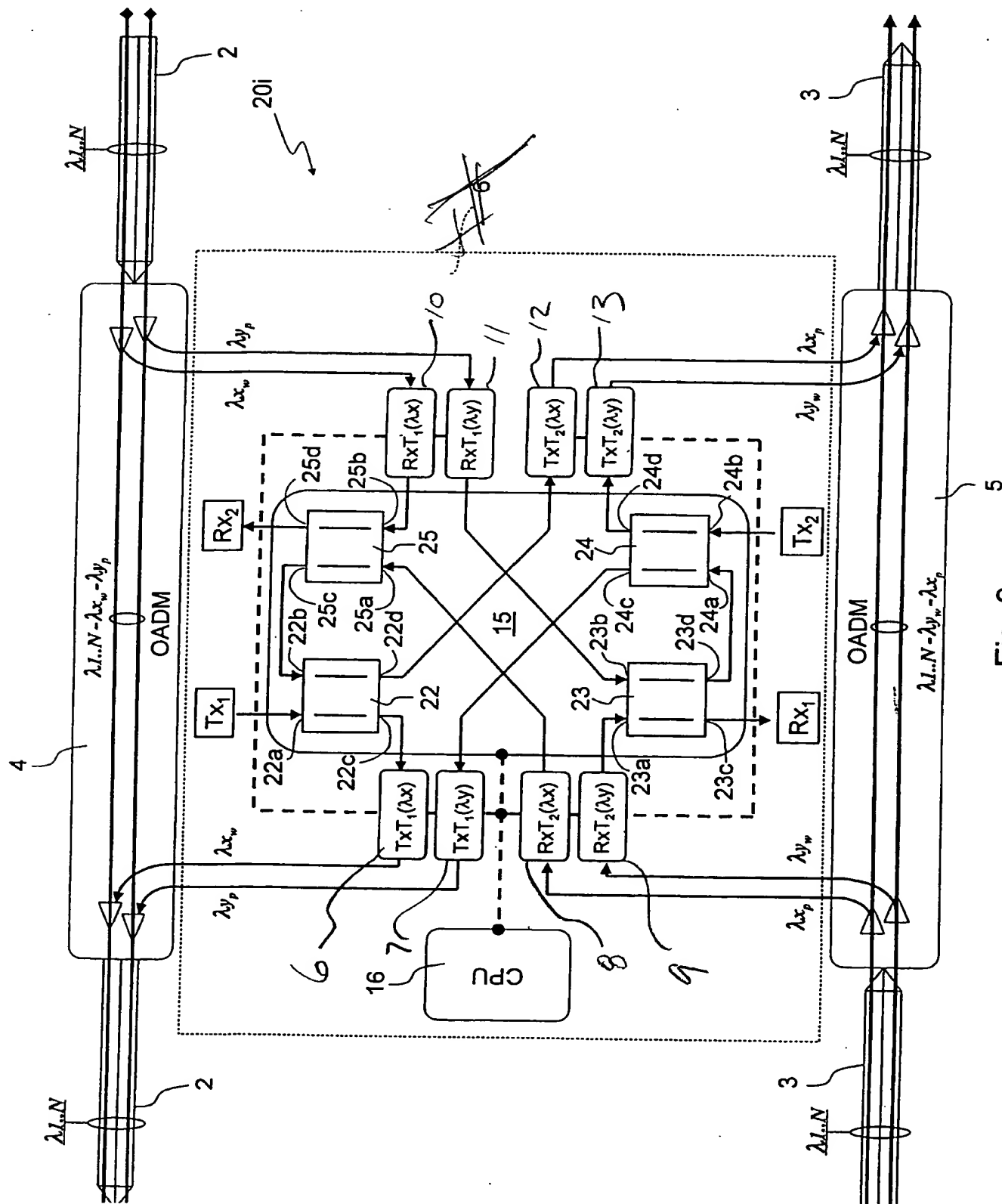


Fig. 3